

**ANOTHER LOOK AT THE LOW TAXABLE INCOME
OF FOREIGN-CONTROLLED COMPANIES
IN THE UNITED STATES**

by

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ABSTRACT

Another Look at the Low Taxable Income of Foreign-Controlled Companies in the United States

This paper takes another look at the differential in the profitability of foreign-controlled and domestic companies. It both uses more recent data and extends previous work. One feature is the recognition of U.S. based companies. The sensitivity of the results to weighting observations by size to reduce the role of small firms also receives more attention. This paper also relies more on company sales rather than assets to scale net income because of the valuation and other problems associated with assets reported on corporate tax returns.

The paper concludes that more than 50 percent, and perhaps as much as 75 percent, of the foreign-domestic profitability differential can be explained by systematic differences between foreign-controlled and domestic companies. This is greater than the share attributed to measurable differences in the earlier paper by Grubert, Goodspeed and Swenson (GGS) published in 1993. The suggestion that income shifting does not explain most of the differential is reinforced by the finding that companies with foreign ownership of between 25 and 50 percent exhibit the same low profitability as 100 percent foreign-owned companies. Income shifting would seem less likely when there are other shareholders, particularly since majority seem to be either domestic companies or public stockholders.

A panel of companies from 1987 to 1993 revealed growing profitability over time for foreign-controlled manufacturing companies compared to domestic companies. A comparable “maturation” effect was also found in the earlier study by GGS.

The paper also presents an analysis of the data from Form 5472, on which foreign owned companies report on transactions with offshore affiliates. There is some suggestion that greater purchases from foreign affiliates, particularly from those in low-tax countries, are associated with lower U.S. income. But the statistical results are not robust and, at best, would explain only about 15 percent of the profitability differential.

Another Look at the Low Taxable Income of Foreign-Controlled Companies in the United States

I. Introduction and Summary

In response to growing concern about the low taxable income reported by foreign-controlled companies in the United States, Grubert, Goodspeed and Swenson (1993) used the Treasury corporate tax files to estimate how much of the foreign-controlled income differential could be attributed to identifiable measurable sources such as debt or startup costs. They examined both a 1987 cross-section of foreign and domestic non-financial companies and a (smaller) panel consisting of companies that had filed returns in each year from 1980 through 1987. Grubert, Goodspeed and Swenson (GGS) concluded that about 50 percent of the foreign-domestic income differential could be explained by systematic differences between foreign and domestic companies.

Before proceeding to take another look at the issue, including data from 1987 to 1993, it may be useful to review some important recent developments. First, the late 1980s were periods of very heavy investment by foreigners in the United States. Survey of Current Business data indicate that the foreign direct investment position in the United States increased by more than 100 percent from 1987 to 1993. From 1987 through 1989, the position increased by an average of about 20 percent per year. Accordingly, a major portion of foreign-controlled assets in 1993 must have been acquired in the recent past.

Another development worth noting is the increasing importance of dividends and royalties as sources of income for U.S.-controlled manufacturing companies. Almost all of this investment income is from abroad. Dividends and royalties were equal to 40 percent of the net income of U.S.-controlled manufacturing companies in 1987 and 53 percent in 1993.

There were also developments in the statutes and regulations governing foreign-controlled companies. One was the enactment in 1989 of section 6038A in the Internal Revenue Code specifying the reporting and recordkeeping requirements of foreign-controlled companies. (However, the final revised transfer pricing regulations were not

issued until 1994, and the final penalty regulations applying to transfer price adjustments appeared even more recently.)

This paper uses both a 1993 cross-section and a 1987-1993 panel. In addition to using more recent data, it introduces some new features into the analysis. One is the recognition of the importance of investment income, particularly dividends and royalties, when comparing foreign-controlled and domestic companies. Income from operations in the United States is the issue. Another feature is that this paper relies much more on sales rather than assets in comparing profitability because of uncertainty over how closely the book value of assets reported on corporate tax returns correspond to the market value of assets used in the United States. In addition to the discrepancy between book values and market values, there seems to be no consistency in the way companies report on important segments of their assets, such as those located abroad.

The importance of weighting observations by size in order to reduce the role of “noisy” small firms is also emphasized. The results turn out to depend on whether observations are weighted or not, particularly when attempting to take into account items of income and expense such as dividends received and interest paid. The importance of weighting became apparent when some of the unweighted analysis produced anomalies that were conceptually impossible or clearly inconsistent with the aggregate data. Accordingly, in order to increase the comparability of results across different tables, observations are consistently weighted by total sales reported on company tax returns.

In addition, some new types of data were available for 1993. One is a file containing information from Form 5472, on which foreign-controlled companies report on transactions with offshore affiliates. It is, therefore, possible to compare companies that engage in extensive dealings with their offshore related parties those having more limited inter-firm involvement. In 1993, it is also possible to identify U.S. companies with 25 to 50 percent foreign ownership. Comparing them with 100 percent owned companies can yield some insight into the sources of the foreign-domestic income differential.

The objective of the analysis is to see how much of the aggregate profitability differential can be accounted for by identifiable, measurable, systematic differences between

foreign and domestic companies unrelated to transfer price distortions. Any “unexplained” residual differential cannot, of course, be attributed definitely to transfer price manipulation. At best, it is an upper bound. The intent is to see if we can narrow the range of uncertainty.

As discussed in GGS, there are potential explanations other than transfer price distortions for the “unexplained” difference in profitability after all measurable identifiable causes have been considered. One is the possibility that foreign companies have a lower cost of capital and are, therefore, willing to accept lower returns. The evidence in GGS that foreign parent companies seemed to be very profitable on the worldwide basis did not seem to support this explanation. Another possibility is that foreign companies systematically tend to acquire “losing” U.S. companies with initially low profitability. A sample of foreign acquisitions studied in GGS did not seem to bear this out. Foreigners may also acquire U.S. companies that turn out to be “lemons” even though they may have appeared profitable to start with. (See Gordon and Bovenberg (1996) for a model based on the “lemons” hypothesis.)

Foreign-controlled companies may also have less U.S. developed intangibles than U.S.-controlled companies. This might be particularly true for U.S. companies established by foreign owners, but less true for U.S. companies that have been acquired by foreign owners, which account by a disproportionate share of the universe of foreign-controlled companies. Royalties paid to foreign parents are small. Nevertheless, this is a serious issue, related to the earlier question about the acquisition of “losers” and lemons.” It is one reason why in some of the analyses, royalties received are taken out of income to put foreign-controlled and domestic companies on a more comparable basis. An attempt is also made to see if the foreign differential is larger in high-technology industries.

This intangibles issue is also closely linked to the issue of the proper domestic “control group” for the comparison of foreign-controlled and U.S. companies. In this paper, all U.S.-controlled companies are used as the control group, in part because the controversy over foreign companies has started with comparisons of the type given in Table 1 in which all U.S. companies are included. Some have suggested that multinational

companies should be excluded because their income is distorted by income shifted abroad to low-tax countries. But the purely “domestic” companies left may be systematically less profitable companies than either foreign or U.S.-controlled multinational companies. Some have suggested using only MNCs in the control group because they are more comparable to the foreign MNCs operating in the United States. In the analysis, a multinational corporation (MNC) indicator is occasionally introduced to test the importance of the issue. As we will see, its role depends on what adjustment has been made for “non-operating” income in the form of (largely foreign) dividends and royalties. In any case, it usually does not have a major effect on the foreign differential.

Summary of GGS

Grubert, Goodspeed and Swenson found that about 25 percent of the 1987 differential could be explained purely from the information in the 1987 cross-section. This seemed to hold both when taxable income was expressed in relation to total assets and in relation to sales. When income was measured relative to assets, the differing incorporation date of the companies was the source of almost all of the 25 percent explained. A recent incorporation date appeared to indicate a recent merger or acquisition when corporate assets are adjusted upwards to market value, lowering the measured ratio of income to assets. Differences in debt did not seem to be important. Measuring income relative to sales, which tends to reduce the effect of the valuation problems associated with assets, required other adjustments. In particular, differences in investment (non-operating) income and companies’ reliance on outside suppliers had to be taken into account.

The 1980-1987 panel suggested that there seemed to be a “maturation” effect in foreign-controlled companies in manufacturing in that their profitability increased over time. Foreign owners might, therefore, be willing to take a lower return in the short-run when establishing or acquiring a U.S. company. The profitability of foreign-controlled companies in wholesaling seemed to be affected by the real price of the dollar relative to other currencies. These considerations, derived from the panel, seemed to explain about another 25 percent of the differential, mostly because of the maturation effect. The 50 percent of the differential attributed to measurable differences between the companies in

GGs was, thus, based on both the 1987 cross-section and the 1980-1987 panel. Finally, the 1987 cross-section indicated that the profitability of companies tended to concentrate near zero, which is consistent with the pattern resulting from the manipulation of transfer prices. They would benefit from shifting profits to low-tax countries and losses to locations where they have positive taxable income.

Conclusions After Another Look

Table 1 is the starting point for the analysis in this paper, presenting the aggregate profitability differentials before estimating the amount that is attributable to systematic differences between the foreign and domestic companies. Taxable income is defined as total receipts less total deductions, i.e., line 28 of the corporate tax return, before the net operating loss and dividends received deductions. We should note that these data are based on returns as filed before audit adjustments. Table 1 shows that the profitability difference between foreign-controlled and domestic companies has remained remarkably stable from 1987 through 1993. It indicates that in 1993 non-financial foreign-controlled companies had a ratio of taxable income to assets 2.79 percentage points lower than domestic companies. The disparity was 2.77 percentage points in 1987. The differential for manufacturing companies fell slightly, from 3.33 to 2.92 percentage points in 1993.¹

In the 1993 cross-section, the analysis of the ratio of taxable income to assets initially does not seem much different from the earlier analysis of the 1987 cross-section, even when observations are weighted by company sales, although the relative importance of debt and age are changed. The corporate age variables explains about 11 percent of the differential in the sample. Greater foreign-controlled debt is more important than in 1987. When the debt-asset ratio is added as an explanatory variable, the overall reduction in the initial differential is 27 percent.

When the ratio of income to sales is used as the profitability measure, the results seem much different from the analysis using assets, but it is important to note how the two

¹These ratios may differ slightly from data published annually in the Statistics of Income Bulletin because of differences in exactly what type of corporations are included. For example, SOI includes investment companies, which are not included in Table 1.

estimates differ. While the rate of return on assets seems the most relevant for comparing profitability, sales have an advantage as a capital proxy in that they are not subject to the valuation problems associated with the book values that appear on corporate balance sheets. In addition, it is not completely clear how companies report on their worldwide assets in the balance sheets included in their returns. But, if sales margins are used to abstract completely from valuation distortions, other adjustments in the numerator are appropriate. Depreciation expense may in part reflect the valuation of depreciable assets that have recently been acquired. Furthermore, interest expense may be distorted because, if assets have been recently acquired, debt may not appear to be high in relation to the book value of assets although it is high in relation to the company's real activity. Accordingly, one step in the analysis of sales margins is adding depreciation and interest expense to income. Furthermore, the sales used as a capital proxy are only related to operating "in-house" assets, not assets that generate investment income. Thus, it seems correct to remove investment income in the form of dividends, royalties and interest received from the numerator in order to approximate operating income.

When all of these adjustments are made, adding back depreciation and interest deduction to income and remove dividends, interest and royalties from income, only about 25 percent of the original foreign-domestic differential in sales margins remains when observations are weighted by sales to better replicate the aggregate differential. A similar result obtains when other "real activity" scaling factors such as total wages paid are used.

But all of these adjustments seem to go too far, as will be discussed in more detail in Section II. Some domestic expenses incurred in earning the investment income should also, perhaps, be taken out. Whether royalties should be taken out of operating income is not clear because they are in some ways comparable to product sales. (Net profit margin regressions in which royalties are an independent variable seem to suggest this.)

Nevertheless, the sales margin results raise the question as to why the analysis based on assets seems so different. The profit measure in the asset based results was not adjusted for depreciation and interest expense. As noted above, foreign-controlled companies' depreciation and interest expense seem higher in relation to sales than assets.

This may reflect valuation differences that the age (incorporation date) variables do not adequately control for.² As far as taking out investment income is concerned, this does not seem appropriate in this context when assets are used because presumably the assets that earn this investment income are included in total assets. Taking out net investment income without taking out the investment assets did not seem correct.

But the relationship between assets and sales seems surprising when foreign-controlled and U.S.-controlled companies are compared. Since U.S. companies receive relatively large amounts of investment income, they might be expected to have a greater amount of total assets in relation to U.S. sales than foreign-controlled companies. But the contrary is the case, possibly because the book value of foreign-controlled assets are much closer to market value than U.S.-controlled assets. It may also reflect some “startup” process in which sales are, perhaps temporarily, low in relation to assets. When adjustments to income and expense comparable to the ones made on sales margins are made to the measure of income in relation to assets, the initial differential is reduced by more than 50 percent when observations are weighted by size. Other attempts to recognize the importance, in particular, of dividends result in reductions of the differential of at least 40 percent.

Accordingly, it appears that the construction of operating earnings goes too far in adjusting for differences between foreign-controlled companies and U.S.-controlled ones, while the asset based analysis of the 1993 cross-section that “explains” 27 percent of the differential doesn’t go far enough in recognizing differences in interest and depreciation expense and dividends. It seems fair to say that perhaps 50-60 percent of the differential can be explained on the basis of the 1993 cross-section.

One further aspect of the analysis of the 1993 cross-section tends to suggest that

²When U.S. companies, in whole or part, are acquired there is no requirement for a reincorporation, which are matters of state law. For example, the foreign company may already have a holding company vehicle. In the 1993 sample, foreign companies incorporated from 1986 through 1993 account for less than 30 percent of all foreign assets. Incorporations in the 1986-1993 interval account for almost 20 percent of domestic assets, so the age variables may not fully reflect the huge wave of foreign acquisitions that took place.

perhaps income shifting or transfer price manipulation is not the major explanation for the large foreign-domestic income differential. In the 1993 file, companies with foreign ownership between 25 and 50 percent could also be identified. Somewhat surprisingly, the profitability of these less-than-majority-owned-by-foreigners companies appeared similar to “controlled” companies, most of which are 100 percent owned. It would appear that transfer price manipulation is less likely to be an explanation of the low profitability of these “non-controlled” companies because of the resistance by other shareholders. (In some cases, they may be public companies.) This similarity between controlled and non-controlled companies indicates that there may be something systematic about the kind of companies that foreigners invest in. Perhaps it is the up-front investments that an infusion of foreign capital makes possible. It may be that foreign companies, having less information; are prone to buy “lemon” companies.

Turning to the 1987-1993 panel, foreign-controlled companies, particularly in manufacturing, seem as before to exhibit a maturation pattern in the form of a rising rate of return on gross assets over time. Rather than foreign companies increasing their profitability over time in absolute terms, they seem not to have suffered the same decline as domestic manufacturing companies in the latter part of the 7 year period. The “maturation” effect is also much smaller when observations are weighted by size. It may not, therefore, be on very firm ground. In addition, any influence of real exchange rates on wholesaling is difficult to detect, in part because there were not the major swings in exchange rates that occurred in 1980 to 1987. The analysis of the Form 5471 file, reporting on transactions between foreign-controlled companies and their offshore affiliates, suggests that foreign-controlled companies that buy more from offshore affiliate, particularly those in low-tax countries, have somewhat lower U.S. taxable income. But the results are not very robust statistically, so that no firm conclusions can be drawn. Furthermore, these results would only account for about 15 percent of the overall differential.

II. The 1993 Cross-Section

The Data

The 1993 cross-section included all non-financial corporations in the Statistics of

Income (SOI) file with total assets in excess of \$50 million. The information was obtained from Form 1120, the basic corporate tax return. A foreign-controlled company is defined as one which is more than 50 percent owned by foreigners. Altogether, in the 1993 cross-section there were 4,610 domestic companies and 1,208 foreign-controlled companies.³ Taxable income is defined as total income less total deductions (line 28 on the Form 1120) before deductions for dividends received and net operating losses (NOLs). (SOI reports refer to this as “net income.”) As emphasized in the introduction, these data are based on returns as filed before audit adjustments.

As noted in the introduction, the regressions in Table 2, as well as most of the regressions in the tables that follow, are weighted by company sales to reduce the impact of small companies whose rates of return and profit margins tend to be “noisy.” The importance of weighting was revealed by some of the unweighted analysis that produced anomalous results. For example, taking dividends and royalty income out of total net income increased the foreign differential in unweighted regressions even though the aggregate data clearly indicate that foreign-controlled companies receive much less investment income. Also, in the analysis using sales margins as the profitability indicator, purchases sometimes had a positive coefficient in the unweighted regressions, even though reliance on outside suppliers means that the company needs less capital in relation to sales. The weighted results did not seem to be sensitive to which size indicator, sales, assets, value added or wages paid, was used for the weights. Analysis based on sales is presented in all cases, even when the profitability measure is scaled by assets, to make the results in different tables more comparable.

In Table 2, the measure of profitability is the ratio of taxable income to total assets. Assets are taken from the balance sheet on Schedule L filed with the corporate tax return. The first column of Table 2 presents the basic benchmark regression for the relationship between the foreign ownership and profitability. Only dummy variables identifying industry and foreign ownership are used. Foreign control, in these sales weighted regressions, is

³As in the earlier paper, the analysis was restricted to consolidated returns, which reduced the sample by 17 percent. This did not seem to affect the results.

associated with a return on total assets that is 4.23 percentage points less than domestic companies, which is consistent with the large aggregate differential in Table 1. The next two regressions attempt to see to what extent the foreign coefficient is reduced, in absolute value, when other explanatory variables are added.

The second column in Table 2 adds five age categories based on the date of incorporation of the companies. The foreign coefficient declines by 11 percent. The last column of Table 2 adds two variables: the company's debt-to-asset ratio and the share of total assets accounted for by intangible assets and "other assets." The latter variable is an indicator of the significance of recent acquisitions because it includes "goodwill" in the form of the excess of the acquisition price over the book value of tangible assets. They lower the differential by 16 percent of its original value in column 1. Adding both the age categories and the debt and intangible variables lowers the foreign coefficient by 27 percent.⁴ (Note the decline in the absolute size of the age coefficient from column 2 to column 3 because of the correlation between debt, as well as intangible assets, and date of incorporation.)

Table 3 scales taxable income by sales, rather than assets, in part to avoid the valuation problems associated with assets. Another reason for using sales is that the way in which different companies report on their worldwide assets on their Form 1120 balance sheets may vary. The first two regressions use the ratio of taxable income to sales as the dependent variable. The first regression, using only industry dummies, has a foreign profitability gap of 3.52 percentage points. The question again is the extent to which this differential is reduced when age and other explanatory variables are added. One variable is a size indicator that seems significant in the sales margin regressions. It is expressed as the inverse of total assets because the effect is likely to be non-linear. Purchases are introduced because, to the extent that the company relies on other suppliers, its sales are a

⁴Should we be concerned about the generally low R squared in this and other tables? Apparently not. The question is the standard error of the aggregate differential when adjusting for systematic differences between foreign and domestic companies. Given the size of the sample and the t values in the critical variables, the noise intrinsic to measuring rates of return is likely to be unimportant.

less accurate proxy for total assets. A given amount of sales would correspond to less “in house” value added. The added explanatory variables, including age and debt, explain about 24 percent of the original 3.52 percentage point differential, which is very similar to the 1987 results.

The second group of regressions in Table 3 adjust taxable income by adding depreciation and interest expenses back to income, because they may also be affected by asset valuations. Depreciation can be high in relation to sales if investments were made recently. Also, a given ratio of debt to assets can result in larger interest expenses relative to sales if the assets were recently acquired at market value. This adjusted version of income results in a substantially smaller foreign differential in column 3, which suggests that interest expenses and depreciation are higher (in relation to sales) for foreign-controlled companies. Table 4 will show that is the case. Comparing the foreign coefficients in columns 1 and 4, we see that adjusting for interest and depreciation expense and adding the other explanatory variables results in a reduction of the foreign-domestic differential of 39 percent.

The last two regressions on Table 3 attempt to construct a measure of operating income by starting with the adjusted income in columns 3 and 4 and then taking out interest income, dividends and royalties. The justification for taking investment income out is that it is not associated with the sales in the denominator that are used as the capacity proxy. Sales are an indicator of “in house” capital used directly by the company.

Taking out dividends, interest and royalties in columns 5 and 6 in order to approximate “operating” income has a large impact. The foreign differential is reduced, as expected, and the extent of the reduction is very substantial. The final 0.86 percentage point differential in column 6 is only about 25 percent of the original 3.52 percentage point gap in column 1.

Table 4 attempts to explain the large quantitative impact of the adjustments of income and expense in Table 3. It presents (weighted) regressions for depreciation, interest paid, dividends, royalties and interest received, all in relation to sales. Foreign-controlled companies receive much less dividends and royalties. They also have much

higher interest and depreciation expenses in relation to sales. (Interest expenses per dollar of sales are 20 percent higher than the mean and depreciation is 10 percent higher.) The sum of the foreign coefficients indicates that these differences in income and expense account for 2.49 percentage points of the sales margin differential.

Table 5 shows that most of the conclusions derived from Table 3 can be obtained more simply from aggregate tabulations. The top row of Table 3B repeats the taxable income to sales ratios in Table 1 for manufacturing, which accounts for more than 50 percent of a foreign-controlled non-financial companies' assets. The second row presents the ratio of operating income to sales, in which operating income is constructed by adding interest and depreciation expense to net income and subtracting interest, dividends and royalties received. In 1993, the foreign-domestic differential declines by 2.12 percentage points or 59 percent going from net income to operating income. (It declines by 1.50 percentage points or 53 percent in 1987.)

As mentioned in the introduction, results similar to Table 3 are derived by using other "real U.S. activity" measures to scale income. For example, when the Table 3 regressions are repeated with the ratio of income to total compensation as the profitability measure, the initial differential using net income is greater than 18 percentage points. When operating income is used in the numerator, the differential virtually disappears. When "real capital" in the form of net plant and equipment and inventories is used, the foreign-domestic differential is reduced by 70 percent after going from net income to operating income.

Accordingly, if using sales as a proxy for capital eliminates valuation and other balance sheet accounting problems without introducing major problems of its own, the above analysis suggests that a large part of the income differential, perhaps three-quarters, is attributable to systematic differences in interest and depreciation expenses on the one hand and in dividends and royalties paid on the other.

But some of the adjustments to create operating income may be questioned. For example, adding depreciation expense to income to remove valuation distortions may "over-adjust" for foreign differences if foreign companies in an industry use systematically

more short-lived plant and equipment. If all income is measured perfectly and only true economic depreciation is deducted, then there should be no relationship between net income and the amount of depreciation charged. Accelerated depreciation and inflation can disturb this expectation of independence between depreciation and net income. The differing relationship between depreciation and net profitability in foreign and U.S.-controlled companies provides some insight into the validity of adding depreciation back to income.

In regressions with the net unadjusted profit margin as the dependent variable, as in the first two columns of Table 3, the amount of depreciation in general has a positive coefficient when it is added as an explanatory variable. High depreciation may indicate a profitable, rapidly growing company. Perhaps high-technology industries use more short-lived equipment. But when, in addition, the depreciation variable is interacted with the foreign identifier, the coefficient of the interacted variable is negative and almost twice the general variable in absolute value. For foreign companies, in contrast to domestic companies, greater depreciation expense is associated with lower measured net income. Adding these depreciation variables to a net margin regression reduces the basic foreign coefficient by more than 20 percent.

Another possible qualification is that when investment income is removed from total net income, some domestic expense associated with earning this income should also be removed. Perhaps some of the deduction for domestic R&D should be added back to income. (Recall that we have added back all interest expense already.) The 1992 data on foreign source income indicates that deductions, including interest, are about 30 percent of the foreign gross income in the general basket. (See Grubert, Randolph and Rousslang (1996).)

Whether royalties are or are not part of operating income is also an issue. Royalties may in many ways be comparable to the proceeds from the sales of machines or other products. They represent the production of intangible capital instead of tangible capital goods. Computer software sales are also frequently classified as royalties and these seem similar to product sales. A regression of net profit margins on the investment income items

suggest that royalties make less of a contribution to net profits than dividends, presumably because of the “in house” expenses of producing them. Indeed, in 1993 the royalties coefficient is sometimes negative. When royalties are not removed from “operating” income in Table 6, the reduction in the initial differential is about 65 percent, compared to more than 75 percent with royalties taken out.

It might be claimed that the large amount of foreign dividends reflect U.S. operating income shifted to foreign countries and they should, therefore, not be subtracted from net U.S. income. Note that the foreign income deferred abroad, perhaps in low-tax countries, has not been subtracted because it is not in the U.S. tax base to start with. The extent of outbound income shifting by U.S. based companies cannot be explored in any depth in this paper but the use of an MNC indicator in the regression is discussed below. In any case, even a substantial amount of income shifting would not appear to invalidate subtracting most of the dividends received. As we will see, the coefficient for dividends when it is used as an independent variable in a net income regression seems to confirm this judgment.⁵

What happens if the income and expense adjustments made in sales margin regressions are made when the income measure is expressed relative to assets? A measure of operating income was not introduced in the basic asset-based regressions in Table 2 because, in principle, the assets in the denominator include investments that yield “non-operating” income. Perhaps making the operating income adjustment is justified because U.S. companies do not report additional assets (in relation to sales) consistent with their large amount of investment income. When the log of total assets is regressed on the log of sales, along with other variables, dividend and royalty income do not seem to require much additional assets. In addition, foreign-controlled companies have significantly higher assets in relation to sales even when the age variables are included. (These regressions are shown in Appendix Table A1.)

⁵This is related to the control group issue discussed earlier. If any outbound income shifting takes place, it would probably be based largely on U.S. created intangibles, which may be less relevant for the domestic-foreign controlled comparison.

A possible explanation for foreign-controlled companies having a surprisingly large amount of assets in relation to sales is that they carry an inflated amount of accounts receivable that they offer to related parties at “favorable” terms. In fact, foreign-controlled companies do not have larger accounts receivable than domestic-controlled companies, either in relation to assets or sales. Foreign companies do seem to receive significantly less interest on their receivables than U.S. controlled companies, but foreign companies that have more receivables do not have significantly lower overall net income.

Table 6 presents regressions in which adjustments are made to income when assets are used to scale profitability comparisons. The first column, when compared with the last column of Table 2, shows that simply removing dividends from income increases the amount of the differential “explained” from 27 percent to 43 percent. Column 2 of Table 6 indicates that when the ratio of operating income to assets is used as the dependent variable in an sales-weighted regression the foreign differential declines by 53 percent compared to the initial unadjusted net income-to-asset ratio regression in Table 2. There is a 67 percent reduction when the ratio of net income to assets is regressed on the other variables plus the income and expense items and a foreign interaction for depreciation as independent variables. In this regression, dividends have a coefficient greater than one, confirming that they do not seem to be associated with any additional assets in the denominator of the profit rate.⁶ This contrasts with interest received which, in fact, has a small negative coefficient, indicating that interest-earning assets yield less than average returns in relation to assets that appear to be on the balance sheet at close to current market value.

Instead of adjusting income directly by adding depreciation and interest expenses

⁶Indeed, foreign-controlled companies seem to have greater “other investments” on their balance sheets than domestic companies. Presumably investments in foreign affiliates would be included in this category.

The coefficient greater than one for dividends suggests that dividends received do not seem to be associated with a great deal of outward profit shifting by U.S. based companies. If they were, the coefficient should presumably be much less than one.

and subtracting investment income, an alternative would be to add these items as explanatory variables in a net income regression. Regressions of this type have already been referred to in interpreting the operating earnings results. We do not rely on them exclusively because: (a) Interaction terms have to be introduced because some of the variables may mean one thing for domestic companies and another for foreign-controlled ones. Depreciation expense, discussed earlier, is one important example. Besides complicating the analysis, the results becomes difficult to interpret. (b) While some of the coefficients are plausible, such as a coefficient just greater than one for dividends, others are inexplicable. For example, royalties have a negative coefficient, suggesting that foreign companies had an advantage in not receiving much royalties.⁷ (c) The operating and adjusted income margin regressions produce more plausible results for some of the subsidiary variables. In particular, the results for purchases, the extent of reliance on other suppliers, conform to the expectation that income goes down approximately proportionately with in-house value added. Operating income seems a “truer” income indicator. This seems due to the addition of depreciation expense back to income. In an adjusted margin regression, after adding both depreciation and interest expense, with the investment income items as independent variables, the reduction in the foreign differential is only modestly smaller than in table 3. Royalties in this regression have a positive coefficient. In any case, both types of analysis are useful and point in the same direction when their strength and weaknesses are taken into consideration. .

In the introduction, we discussed the “control group” issue, in particular the role of intangibles and U.S. multinational corporations in the income comparison. When an MNC dummy is constructed based on whether a company receives foreign tax credits or foreign dividends or reports having a controlled foreign corporation abroad, its impact is related to the income and expense adjustments we have been discussing. In the net margin regression it has a large positive significant coefficient, of about 2 percentage points, and lowers the

⁷Some major U.S. MNCs that receive substantial royalties may have undergone downsizing adjustments in 1993. In the foreign-domestic comparison, the negative correlation between net income and royalties would be spurious.

foreign differential modestly, by about 15 percent. In the operating income margin regression, the MNC dummy has a negative but not significant coefficient. (These regressions are given in Appendix Table A2.). This seems to confirm that we have over-adjusted for investment income in constructing operating earnings. An alternate explanation is that U.S.-based MNCs understate their domestic income. In any case, the foreign coefficient in the final operating income margin regressions is not much affected by the inclusion of the MNC dummy.⁸ Taking out investment income and royalties seems to extract the advantages that U.S. MNCs enjoy in terms of intangibles.

Another test of whether asymmetry in intangibles explain much of the foreign-domestic differential was to interact the foreign dummy with high-technology industry dummies. Is the foreign differential higher in these intangible intensive industries? There was no consistent pattern in the interaction terms. The basic foreign coefficient in the various profitability regressions was hardly affected.

Companies With 25-50 Percent Foreign Ownership

The 1993 corporate file identifies companies that have 25 percent or more foreign ownership because they are the ones covered by the reporting requirements under section 6038A. We have defined “foreign control” as ownership of greater than 50 percent. But looking at the profitability of companies with only 25-50 percent foreign ownership may provide some insight into the explanation for the low-profitability of controlled companies. If the two groups are similar, then explanations other than transfer price manipulation seem more plausible because income shifting would seem difficult with other shareholders in the picture.

Table 7 introduces a variable identifying companies with foreign ownership between 25 and 50 percent. It is identical to Table 3 except for the addition of this identifier. In the first column, for net profit margins with only industry dummies, the coefficients for foreign-controlled and 25-50 percent owned companies are very close. Indeed, the 25-50

⁸Including the MNC dummy has little effect on the foreign coefficient in the taxable income-to-asset regressions. More domestic companies are classified as MNCs than foreign-controlled ones, but the discrepancy is not very large.

percent owned coefficient is slightly larger in absolute value. In columns 3 and 5, for adjusted income margins and operating income margins with only industry identifiers, the coefficients for 25-50 percent ownership are substantially larger in absolute value than the basic foreign coefficient. In columns 2, 4 and 6, the addition of age, debt and the other explanatory variables reduces the 25-50 percent ownership profit differential to a greater extent than the foreign-controlled dummy. Nevertheless, in the adjusted income and operating income regressions, the 25-50 percent differential remains larger than for the basic foreign-controlled group.⁹

As an alternative, a more continuous “partial” foreign ownership variable was created, equal to zero both above 50 percent and below 25 percent, and the actual percent owned between 25 and 50 percent otherwise. It turned out to be significant in simple net profit rate and net profit margin weighted regressions including only the industry dummies and the normal foreign control identifier. Furthermore, at 50 percent foreign ownership, the coefficient suggests a foreign effect virtually identical to the “foreign control” effect.

This similarity between foreign-controlled and 25-50 percent foreign owned companies suggests explanations for the foreign differential that are common to both groups of firms, not income shifting which would appear unlikely for the less than 100 percent foreign owned companies. It was impossible to tell from the Treasury file whether the other shareholders were foreign or domestic. Examination of the names indicated that many were still publicly traded companies. But even if the shareholders are other foreigners, which seems rare, arranging mutually agreeable income stripping would seem difficult.

Perhaps it is true that foreign companies tend to acquire “losing” companies, although the evidence in GGS did not seem to confirm this. It may also be that the U.S.

⁹There were 80 “partial control” companies in the sample. The “partial control” variable is sometimes not significant in unweighted regressions. In the normal foreign-controlled companies, ownership averaged 97 percent. When less than 100 percent, but more than 50 percent, owned companies are put in a separate dummy variable, they seem to be indistinguishable from the 100 percent owned companies.

companies that are acquired turn out to be “lemons” because of foreign investors’ disadvantages in obtaining information. Also, an infusion of foreign capital may enable the U.S. company to make long term investments that result in a short term penalty to profits.

The Gordon-Bovenberg (1996) “lemons” hypothesis would on the surface, at least, appear to be implausible. Why don’t foreign investors simply throw darts at the stock market pages and obtain at least the average U.S. equity return? Perhaps large or controlling interests have to be bought at a premium. (Why they have to pay more than U.S. acquirers is something of a mystery.) It may be that they are seeking specific U.S. assets complementary to their worldwide assets, e.g., markets to which they can apply their foreign developed technology. This, of course, raises the issue as to the amount of their worldwide income that should be attributed to their U.S. activities.

Kinney and Lawrence (1996) have also found that U.S. companies with substantial, but not controlling, foreign ownership have profitability lower than comparable domestic companies, although they seem to believe that income shifting is a possible explanation. Their data is based on financial reports for companies that continue to be publicly traded. (Very few of the foreign ownership interests exceeded 50 percent.) They could not, therefore, compare their sample with 100 percent foreign owned companies. One interesting aspect of the Kinney-Lawrence results is that they claim that low profitability only shows up two years after the foreign investment, which seems to be more consistent with the “lemons” than the “initial losers” hypothesis.

An attempt was made, in our sample, to see what identifiable characteristics foreign-controlled and 25-50 percent foreign owned companies had in common. What seemed to stand out was the fact that both groups received very few royalties compared to domestic companies in the same industry. Foreigners appear to invest in companies without many U.S. developed intangibles. Their investments may initiate the development of U.S. intangible assets with greater value.

Debt and Earning Stripping

Table 8 explores the debt issue in greater detail: Do foreign-controlled companies have more debt? Do they pay higher interest rates on their debt, particularly if they have

large loans from shareholders? The (sales weighted) regressions in column one shows that foreign-controlled companies have a debt-to-asset ratio 6.75 percent points higher than domestic companies that are comparable in terms of industry and date of incorporation. This greater than average debt is consistent with the reduction in the foreign differential in Table 2 when the debt-asset ratio is added as an independent variable in a profit rate regression.

Column 2 in Table 8 examines the effect of loans from shareholders on company leverage. Do shareholder loans contribute to greater overall leverage or do they simply replace third party borrowing? The coefficient for shareholder loans indicates that a dollar of additional shareholder loans increases overall debt by 51 cents, and perhaps somewhat less for foreign companies in view of the negative (but insignificant) coefficient for the foreign-controlled company shareholders loans. In any case, shareholder loans do not seem to be very large, 4.7 percent of assets for all companies and 3.9 percent for foreign, so they do not have a large effect on overall debt. This can be seen from the small change in the foreign coefficient and intercept going from column 1 to column 2 in Table 8.

The last column of Table 8 attempts to see if foreign-controlled companies have higher interest costs than domestic companies, holding total debt, industry and age category constant. The virtually zero foreign coefficient show that there is no difference in interest costs. Also, loans from shareholders do not raise average interest costs. If anything, for foreign-controlled companies, the foreign interaction with shareholder loans indicates that they lower interest costs.

Country Differentials

Tables 9 divides the overall foreign identifier into the specific home country of the foreign owners. The first column of Table 9 repeats the first debt-asset regression in Table 8 with these additional country dummy variables. Some countries stand out as having unusually high debt. The average debt-to-asset ratio of Korean owned companies is

extraordinary.¹⁰ Companies controlled by Japanese, Netherlands, U.K., Swiss and French owners have a debt-to-asset ratio more than 10 percentage points higher than comparable domestic companies.

The second column of Table 9 presents the relationship between the ratio of taxable income to assets and the country dummies, holding industry, age and leverage constant. The profitability differentials for Japan, Canada and The Netherlands are close to the average for all foreign-controlled companies in Table 2. Companies based in Germany, France and Australia, as well as those from low tax countries such as Switzerland, Panama and Bermuda, appear very unprofitable. On the other hand, companies based in the United Kingdom seem to be as profitable as comparable U.S. controlled companies.¹¹

The last column of Table 9 provides country differentials when the ratio of “operating” income to sales is used as the profitability indicator in regression comparable to the last column of Table 3. In some respects the relative position of different investing countries are similar to column 2, the large differentials for France, Italy and some tax havens, for example. But the relative performance of some investors change. For example, Japanese controlled companies now have a positive (although insignificant) differential similar to U.K. controlled companies. The reason for this shift in the position of Japanese-controlled companies appears to be their large depreciation expenses in relation to sales, which may reflect the large investments they undertake after establishing operations in the United States.

Summary of This Section

Summing up this admittedly rather discursive section, it appears that a significant amount of the foreign-domestic income differential in the 1993 cross-section can be explained by the adjustments and variables that have been considered. It is not possible to

¹⁰The debt-to-asset ratio can be more than 100 percent. The book value of assets used in the denominator may be much smaller than the market value. A company with persistent losses can also have negative equity.

¹¹It would be interesting to know the extent to which these differentials are related to the severity of home country CFC (Subpart F) rules.

be precise because of the difference between the asset based and sales based results, and the possibility that constructing operating income has “over-adjusted” for systematic differences between the two groups of companies. Nevertheless, after all the ways we have used to look at the issue, scaling by sales or assets and either directly adjusting income or adding income and expense items as explanatory variables, it appears that 50 percent or more of the differential is attributable to differences in age, debt, depreciation and dividends.

III. Trend and Exchange Rate Effects in the 1987-1993 Panel

Examining a fixed group of companies is useful because it is then possible to identify whether foreign-controlled companies “mature” over time after possibly passing through an unprofitable phase when the business is started or acquired. Any cross-section for a single year will be affected by new entries of foreign-controlled companies which may have specific characteristics such as startup (or post-acquisition) losses. A panel can also be used to identify whether foreign company profitability is affected by the real value of the dollar relative to other currencies. It has been claimed that one reason for the low profits of foreign-controlled companies is the fall in the price of the dollar since 1985, which has made prices of foreign products more expensive.

The 1987-1993 panel is made up of all non-financial companies that are in the SOI corporate data file for each of the 7 years with the identical EIN (identification number). All companies had to have at least \$25 million in assets each year. The sample had 344 foreign-controlled companies and 1588 domestic companies.

Table 10 reports on the determinants of profitability the panel over the 7 year period. In addition to basic industry, age, debt, and foreign-controlled status, it introduces variables that the panel makes possible. One is a trend variable which is interacted with foreign manufacturing and foreign wholesaling dummies to see if there is a maturation effect in these industries. These foreign-controlled categories are also interacted with an index of the real value of the dollar relative to other currencies produced by the Federal Reserve Board. In addition, there are year dummies to control for cyclical effects over the time period.

The Table 10 panel results indicates that there appears to be a continuing maturation effect in foreign manufacturing companies, both when the ratio of net income to assets and the ratio of operating income to sales are used as profitability indicators. For example, in the second column, their profitability seems to grow by .53 percentage points per year as shown by the foreign manufacturing trend coefficient. There is also a positive but smaller trend for foreign-controlled wholesaling companies.

Changes in real exchange rates seem to be much less important in the 1987-1993 panel than in the 1980-1987 panel. In the earlier analysis, the profitability of foreign-control companies in wholesaling increased when the dollar increased in value, presumably because they could import foreign products more cheaply and competitive pressures did not cause them to pass along all of the savings to their customers. Conversely, they may have absorbed some of the increased cost of foreign goods after 1985 because they wanted to protect their market share. In the 1987-93 panel, the foreign wholesaling exchange rate coefficient is negative, not positive as earlier, and statistically significant.¹² The interaction of the real exchange rate with the foreign manufacturing dummy also has the unexpected negative sign and is statistically significant.¹³

One possible reason for the differing impact of changes in the exchange rate in the current panel is the much narrower swings in the dollar over the period. The Federal Reserve Board index of the real value of the dollar averaged 88.48 over the 7 years, with a high of 94.39 in 1989 and a low of 83.45 in 1992. This is in contrast to the increase from 84.8 in 1980 to 132.0 in 1985 and then the fall back to 90.6 in 1987.

We should note that the foreign maturation effect does not mean that foreign-controlled manufacturing company profits rose over the time period, just that they didn't

¹²It is possible that foreign wholesaling companies are still suffering from the decline in the dollar after 1985, but this is difficult to investigate because the panel does not go back that far. We also might have identified a clear exchange rate effect if more disaggregated country exchange rates had been used.

¹³The positive sign on the basic foreign variable has to be interpreted in light of the foreign interaction variables, in particular the negative coefficient for the exchange rate interaction.

fall as much as domestic companies' profits fell in the same period. The decline in domestic manufacturing profits is apparent in the negative and significant general manufacturing trend coefficient in Table 10.¹⁴ The year dummies also show a general decline of profits in 1991 and 1992. If the general manufacturing trend and year dummies are not included in the equation, the trend in foreign manufacturing profits is essentially flat.

Finally, the estimated maturation effect is sensitive to whether the observations are weighted by size. When they are weighted, the trend effects fall to less than half of their former magnitude. This might suggest that it is the smaller foreign companies that tend to increase their profitability over time.¹⁵

IV. Concentration of Foreign-Controlled Companies' Taxable Income Near Zero?

The 1991 analysis of the 1987 corporate cross-section examined the distribution of foreign-controlled company profitability to see if it was consistent with income shifting. The distributions might indicate whether at least a portion of the "unexplained" differential could be attributed to transfer price distortions. Foreign-controlled companies would have the incentive and opportunity to shift positive taxable income to low-tax countries. Indeed, companies with high intrinsic U.S. profitability would have the greatest opportunity to shift income without arousing the suspicion of tax authorities. Conversely, unprofitable foreign-controlled companies would have the incentive to transfer losses to jurisdictions in which they have positive taxable income. Accordingly, income shifting would make the distribution of foreign-controlled company profitability more concentrated than domestic companies, and in addition, the peak of the foreign distribution would be near zero.

¹⁴The 1991 analysis of the 1980-87 panel did not include a general manufacturing trend variable. It seems appropriate to include it to evaluate the relative performance of foreign companies. If it is not included, the foreign manufacturing improvement per year is .44 percentage points per year rather than .65 percentage points.

¹⁵One reason for not reporting weighted regressions in Table 12 is that it is not absolutely clear how the weight for the panel should be constructed. The weighted regression discussed in the text used the current level of sales for each observation. Perhaps a constant seven-year average for each company should be used.

The 1987 data exhibited a pattern consistent with some income shifting by foreign-controlled companies. The ratio of taxable income to assets distribution of foreign-controlled companies displayed a very clear concentration near zero. The domestic distribution had a higher mean, as expected, and was flatter in the central range than the foreign distribution.

Table 11 presents the profitability distribution of all non-financial foreign and domestic companies in the sample. The 1993 pattern is similar to 1987. Foreign-controlled profitability is again concentrated near zero with a higher mode than the domestic distribution. There is a particular disparity in the number of very profitable companies.

Because the intrinsic profitability of manufacturing companies, which presumably have developed valuable intangibles, may be different from wholesaling and other companies, their distributions were examined separately. The distributions for manufacturing companies, which make up 47 percent of the sample, present an even clearer picture than the sample of all firms in the first two columns of Table 11. Foreign companies are again concentrated near zero. Domestic companies have a very flat distribution over a wide range of profitability, with a mode only about 60 percent of the foreign-controlled mode. There is also a more dramatic disparity in the frequency of very profitable companies.

On the other hand, the wholesale distributions in Table 11 are not as different from each other as the manufacturing distributions. (Wholesaling companies accounted for 12 percent of the entire sample and 24 percent of the foreign-controlled companies.) Both the foreign and domestic distributions are concentrated near zero and the domestic mode is only slightly smaller than the foreign mode. Yet, there continues to be a large disparity at the highly profitable end of the distribution.

When profits are scaled by sales, there is a similar difference in the distribution of foreign and domestic companies, but it is not as dramatic. (These are not shown on the tables.) For example, in manufacturing, the domestic mode is above zero and it is about 20 percent lower than the foreign mode, compared to 40 percent lower when the ratio of

taxable income to assets is used. If dividends are taken out of income on the grounds that they would largely be shielded by either dividends received deductions or foreign tax credits, the distributions are not much affected.

Summing up, foreign companies' profitability continued to be concentrated near zero in 1993, similar to the 1987 pattern. The difference in profitability distributions was particularly notable in manufacturing.

V. Analysis of the Form 5472 File for 1992

On Form 5472, U.S. companies that are at least 25 percent owned by foreigners report on various types of transactions with affiliates offshore. (Since it may have transactions with many related parties offshore, a single U.S. company may file many Form 5472s.) In recent years the Statistics of Income Division of the IRS has compiled data from Form 5472s filed by foreign-controlled companies with assets in excess of \$500 million. In 1992, there were 270 non-financial corporations that were used in the analysis in this section.

The 5472 file provides the opportunity for comparing foreign-controlled companies that have extensive transactions with their offshore related parties with those that have relatively limited dealings. It might be hypothesized that companies with a greater number of transactions with their affiliates have more opportunities to shift income abroad. The 5472 file also makes it possible to distinguish transactions with affiliates in high tax countries from those in low tax countries.

Table 12 presents the relationship between various types of transactions and the foreign-controlled U.S. company's profitability. The transactions are classified into four types: (1) payments for tangible property, (2) payments for intangible property, (3) receipts from the sale of tangible property, and (4) receipts from the sale of intangible property. Tangible property includes both stock in trade and tangible property other than stock in trade. Receipts from intangibles include rents and royalties, proceeds from sales of intangible property and "payments for technical, managerial or like services."¹⁶

¹⁶Alternative classifications, such as restricting tangible transactions only to stock in trade, did not affect the statistical results. Including commissions received and paid, which are very

In Table 12, all transactions of a given type are first aggregated across all of the company's foreign affiliates. The transactions variables are then transformed into thresholds of inter-company activity in order to reduce the problems of outliers in this relatively small sample. In column 1, for example, the tangible transactions threshold is total payments in excess of 10 percent of total assets and the intangible transactions threshold is total payments in excess of 1 percent of total assets. Of the companies in the sample, 37 percent had purchases of tangible property in excess of 10 percent of assets and 16 percent were above the tangible sales threshold. With respect to intangible transactions, 20 percent were above the purchases threshold and 19 percent above the sales threshold.

In addition to the transactions variables, the Table 12 regressions for company profitability included basic industry dummies and the ratio of interest expense to assets, the measure of leverage available on the file.

The results in Table 12 are at most be regarded as suggestive. Companies that buy substantial tangible property from affiliates abroad seem to have lower U.S. taxable income, but the transactions coefficients are not consistently different from zero at the 5 percent level of significance, the common standard for evaluating statistical results. For example, the first column indicates that companies that make annual purchases of tangible property from foreign affiliates amounting to more than 10 percent of assets have a ratio of taxable income to assets that is 1.5 percentage points lower than other foreign-controlled companies. But the -.015 coefficient is just slightly larger than its standard error.

The fourth column indicates that the companies above the tangible sales threshold have a ratio of taxable income to sales that is 2.6 percentage points lower than other foreign companies. Here the -.026 coefficient is significant at the 10 percent level. Still, even though these statistics indicate that a zero effect cannot be rejected using the normal 5 percent standard, the hypothesis that there is a notable negative effect associated with more extensive transactions also cannot be rejected with any confidence. If forced to choose between the two hypotheses, the negative effect hypothesis would probably be chosen.

small, also had little effect. Stock in trade is by far the largest item.

In the second set of regressions, in columns 2 and 5, the transactions thresholds are lowered to half the level in the first set. The coefficients for purchases of tangible property become larger (in absolute value) and statistically more significant. The -.033 coefficient in column 5 is significant at the 5 percent level. None of the other transactions categories are close to being statistically significant.

In Tables 13 and 14 transactions with tax affiliates in “high” tax countries are distinguished from transactions with affiliates in “other” or “low tax” countries. The country classification was based on a tabulation of effective tax rates on U.S. controlled corporations in 60 countries. These are taken from Form 5471's that U.S. parents file on each of their controlled foreign corporations (CFCs). Countries with an effective tax rate in 1992 above 10 percent were classified in the “high” tax group. All other countries, including those not among the 60 countries for which effective tax rate data was available, were classified in the other or “low” tax group.¹⁷ Purchases of tangible property from low-tax countries accounted for about 10 percent of total purchases from foreign related parties.

Tables 13 and 14 indicate that, to the extent larger purchases of tangible property from offshore affiliates are associated with low profitability in the United States, it is transactions with affiliates in the “low-tax” grouping that seem to be important. Table 13 uses the same transactions thresholds as the first set of regressions in Table 12, except that they now apply to transactions with each of the two country groupings. The first column of Table 13 shows that foreign-controlled companies that have more than the threshold level of purchases of tangible property from affiliates in “low-tax” countries have a rate of return on gross assets 4.7 percentage points less than other foreign companies. But the coefficient is significant only at the 10 percent level. (About 5 percent of the 270 company sample is above the low-tax country threshold.)

¹⁷The 60 countries were all those that had 5 or more U.S. CFCs in manufacturing in 1990. The small countries outside the 60 had to be assigned arbitrarily to one group or the other because it is very difficult to obtain information on many of them. The presumption was that they are low tax.

Note that some of the coefficients of the transactions variables in Table 13 are positive. In particular, receipts from intangibles sold to “low” tax countries are associated with much higher U.S. profitability. This may reflect highly successful U.S. companies with valuable intangibles that have been acquired by foreign companies. (Only about 2 percent of the sample is above this intangible sales threshold.)

Table 14 uses the foreign-controlled U.S. company’s sales to scale the importance of transactions with foreign affiliates. It also sets a lower threshold for transactions with low-tax countries than with the high-tax group. Purchases of tangible property from affiliates in low-tax countries again seem to be associated with lower U.S. profitability. Furthermore, the $-.050$ coefficient, in the second column using the ratio of taxable income to sales as the profitability measure, is significant at the 5 percent level.

Finally, if we take the coefficients in Tables 12-14 at face value, overlooking their general low statistical significance, how much of the foreign-domestic profitability differential can they explain. For example, consider the $-.015$ coefficient for purchases of tangible property in the first column of Table 12. About 37 percent of the sample is above the purchases threshold. Accordingly, these offshore transactions would “explain” about .5 percentage points of the overall total differential, or about 15 percent.

Summing up this section, there is some indication that more extensive transactions with affiliates abroad, particularly those in low-tax countries, are associated with lower U.S. profitability, but the statistical significance of the results is not very high.

VI. Conclusions

The availability of more recent data has provided the opportunity for both an update of the 1991 paper by Grubert, Goodspeed and Swenson and another look at some issues that may not have received enough attention. One feature is the recognition of the growing importance of investment income, particularly foreign dividends, as a contributor to the net income of U.S.- controlled companies. The statistical analysis in this paper also highlights the importance of weighting observations by size to reduce the role of small “noisy” companies that can often produce anomalous results if they are given a weight

equal to large companies. Furthermore, the results are also sensitive to whether net income is scaled by total assets or sales in comparing profitability. In particular, foreign companies have higher interest and depreciation expense when expressed in relation to sales than when measured in relation to assets. Because of the problems associated with asset valuations, including uncertainty over exactly what companies put on the balance sheet in their corporate tax return, this paper tends to put more reliance on sales based comparisons than the earlier study.

The analysis of the 1987 cross-section in the earlier paper indicated that about 25 percent of the foreign-domestic profitability differential could be explained purely by the cross-sectional variables, principally corporate age in the asset-based results and investment income and reliance on outside suppliers in the sales based results. The results in this paper suggest that this should be closer to 50 percent. One reason is the importance of dividends mentioned above, which, for example, account for more than 30 percent of the net income of U.S.-controlled manufacturing industries. Another is the greater depreciation and interest expense incurred by foreign-controlled companies.

The possibility that systematic differences between foreign-controlled and U.S.-controlled companies, rather than income shifting, explains most of the differential is reinforced by the finding that companies with foreign ownership between 25 and 50 percent have low profitability similar to 100 percent owned companies. Since income shifting would seem more difficult when other shareholders are involved, this suggests that the investments that foreign companies make in the United States may have distinctive features.

In the earlier paper, a 1980-1987 panel of U.S. and foreign-controlled companies revealed that foreign-controlled manufacturing companies had an improving trend in profitability, suggesting a “maturation” effect. Foreign-controlled companies would, therefore, be willing to accept lower returns in the short run, soon after starting a U.S. enterprise, because of the expectation of higher profits in the future. In view of the importance of recent investments by foreigners, approximately another 20 percent of the foreign-domestic differential was attributed to this “maturation” effect. There was also a

small component of the differential attributed to the effect of exchange rate changes on wholesaling companies.

The 1987-1993 panel examined in the present paper shows a similar positive trend for foreign-controlled manufacturing companies compared to domestic ones. But we cannot be very confident about the size of the “maturation” effect because it becomes much smaller when the observations are weighted by size. Exchange rates did not seem to have a noticeable effect on 1993 profit levels, perhaps because there were much smaller fluctuations in real exchange rates between 1987 and 1993 compared to the earlier period.

Finally, the analysis of the Form 5472 file, which reports on the transactions foreign-controlled companies engage in with offshore affiliates, produced relatively inconclusive results. (The file had not been available for 1987.) There was some suggestion that companies which purchased more goods from offshore affiliates, particularly those in low-tax countries, had lower taxable income, but the statistical results were not very robust. Furthermore, even if we overlooked the generally low statistical significance of the results, the estimated coefficients would explain only about 15 percent of the differential.

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TABLE 1
PROFITABILITY OF FOREIGN-CONTROLLED AND
DOMESTIC COMPANIES 1987-1995

	1987	1988	1989	1990	1991	1992	1993	1994	1995
Ratio of Taxable Income to Assets									
All Industries									
Foreign-Controlled	.58	1.15	.57	.24	-.22	.30	.54	.95	1.49
U.S.-Controlled	2.14	2.51	2.26	2.14	1.95	2.03	2.32	2.45	2.70
Non-Financial									
Foreign-Controlled	1.01	1.85	.90	.49	-.24	.48	.77	1.66	2.60
U.S.-Controlled	3.78	4.60	3.84	3.47	3.94	3.04	3.56	4.23	4.33
Manufacturing									
Foreign-Controlled	1.60	2.61	1.28	1.43	.33	.91	1.39	2.08	3.89
U.S.-Controlled	4.93	6.18	5.28	4.71	3.63	3.69	4.31	5.02	5.30
Wholesale Trade									
Foreign-Controlled	.69	1.56	.96	-.64	-.44	.24	.26	1.36	1.06
U.S.-Controlled	3.24	3.66	2.32	1.75	2.55	2.57	2.56	3.17	2.88
Ratio of Taxable Income to Gross Receipts									
All Industries									
Foreign-Controlled	.88	1.81	.94	.42	-.40	.52	1.04	1.79	2.98
U.S.-Controlled	4.34	5.31	4.91	4.65	4.42	4.71	5.64	5.85	6.66
Non-Financial									
Foreign-Controlled	1.00	1.90	.91	.51	-.26	.49	.79	1.70	2.88
U.S.-Controlled	3.49	4.50	3.80	3.45	3.02	3.14	3.71	4.22	4.31
Manufacturing									
Foreign-Controlled	2.39	3.63	1.79	1.94	.44	1.17	1.70	2.54	5.22
U.S.-Controlled	5.20	7.06	6.17	5.57	4.49	4.55	5.31	6.10	6.41
Wholesale Trade									
Foreign-Controlled	.29	.72	.47	-.37	-.26	.13	.15	.78	.61
U.S.-Controlled	1.40	1.77	1.19	.89	1.13	1.30	1.40	1.71	1.51

TABLE 2
ALTERNATIVE REGRESSIONS FOR TAXABLE INCOME TO ASSET RATIO*
(1993 FILE NON-FINANCIAL CORPORATIONS)
(OBSERVATIONS WEIGHTED BY SALES)

Intercept	.0492 (23.52)	.0558 (22.95)	.1287 (40.11)
Foreign	-.0423 (15.25)	-.0378 (13.26)	-.0308 (11.66)
Wholesale	-.0034 (.94)	-.0067 (.86)	-.0029 (.87)
Transportation and Utilities	-.0167 (5.15)	-.0172 (5.19)	-.0149 (4.98)
Food	-.0158 (3.53)	-.0150 (3.34)	.0169 (4.07)
Electronics	.0070 (1.68)	.0048 (1.15)	.0010 (.26)
Chemicals	.0083 (1.60)	.0063 (1.21)	.0040 (.83)
Drugs	.0544 (6.35)	.0498 (5.82)	.0430 (5.44)
Other Manufacturing	-.0006 (.20)	-.0020 (.72)	-.0048 (1.87)
Age 1: LE 5		-.0198 (5.91)	-.0067 (2.11)
Age 2: GT 5 - LE 10		-.0175 (6.36)	-.0121 (4.72)
Age 3: GT 10 - LE 15		-.0105 (2.69)	-.0047 (1.30)
Age 4: GT 15 - LE 20		-.0073 (1.73)	-.0040 (1.02)
Age 5: GT 20 - LE 30		.0039 (1.23)	.0045 (1.55)
Debt/Assets			-.1076 (30.95)
Intangible Plus Other Assets			-.0315 (4.32)
R Squared Adjusted	.0631	.0745	.2131

Mean of Dependent Variable	.0419	.0419	.0419
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* Regressions are unweighted.
t values in parenthesis.

TABLE 3
SALES MARGINS*
(WEIGHTED BY SALES)

Independent Variables	(1) Taxable Income/Sales	(2)	(3) Adjusted Income/ Sales	(4)	(5) Operating Income/ Sales	(6)
Intercept	.0304 (14.76)	.1097 (28.94)	.0924 (33.47)	.1864 (35.93)	.0681 (25.68)	.1479 (29.34)
Foreign	-.0352 (12.90)	-.0266 (10.03)	-.0249 (6.79)	-.0216 (5.95)	-.0101 (2.87)	-.0086 (2.43)
Wholesale	-.0016 (.45)	.0043 (1.22)	-.0254 (5.32)	.0058 (1.20)	-.0325 (7.09)	-.0040 (.86)
Transportation and Utilities	.0296 (9.25)	.0230 (6.86)	.1296 (30.16)	.0892 (19.46)	.1325 (32.11)	.1011 (22.70)
Food	.0157 (3.56)	.0136 (3.27)	.0102 (1.72)	.0106 (1.86)	.0044 (.77)	.0067 (1.22)
Electronics	.0236 (5.73)	.0167 (4.29)	-.0459 (8.30)	.0442 (8.29)	.0206 (3.87)	.0226 (4.37)
Chemicals	.0303 (5.94)	.0212 (4.40)	.0558 (8.15)	.0370 (5.61)	.0219 (3.33)	.0087 (1.36)
Drugs	.1086 (12.88)	.0936 (11.81)	.1012 (8.95)	.0821 (7.57)	.0356 (3.28)	.0238 (2.26)
Purchases/Total Expenses		-.0125 (3.44)		-.0854 (17.18)		-.0754 (15.60)
Debt/Assets		-.0969 (27.94)		-.0554 (11.67)		-.0601 (13.03)
Inverse of Total Assets		-1268 (4.63)		-4338 (11.58)		-1630 (4.48)
Age 1		-.0033 (1.03)		-.0013 (.29)		.0054 (1.28)
Age 2		-.0017 (.69)		.0110 (3.16)		.0156 (4.58)
Age 3		-.0110 (3.03)		-.0197 (3.95)		-.0088 (1.83)
Age 4		-.0001 (.03)		-.0059 (1.10)		.0094 (1.81)
Age 5		-.0124 (4.24)		-.0166 (4.14)		-.0002 (.06)
R Squared Adjusted	.1006	.2156	.2156	.2892	.2249	.2798
Mean of Dependent Variable	.0400	.0400	.1225	.1225	.0880	.0880

*t values in parenthesis.

TABLE 4
INCOME AND EXPENSE ITEMS IN RELATION TO SALES*
(REGRESSIONS WEIGHTED BY SALES)

	Royalties Received	Dividends Received	Interest Received	Deprecia- tion	Interest Paid
Foreign	-.0043 (3.20)	-.0089 (11.76)	-.0014 (.92)	.0033 (1.97)	.0070 (4.16)
Wholesale	-.0031 (1.75)	-.0026 (2.61)	.0067 (3.40)	-.0146 (6.71)	-.0094 (4.27)
Transportation and Utilities	-.0056 (3.52)	-.0017 (1.94)	.0045 (2.55)	.0648 (33.11)	.0352 (17.81)
Food	.0025 (1.13)	-.0056 (4.54)	-.0022 (.90)	-.0080 (2.95)	.0024 (.89)
Electronics	.0018 (.86)	-.0111 (9.69)	.0126 (5.50)	.0177 (7.03)	.0046 (1.80)
Chemicals	.0075 (2.96)	.0214 (15.11)	.0050 (1.76)	.0134 (4.31)	.0119 (3.79)
Drugs	.0193 (4.60)	.0439 (18.77)	.0024 (.51)	-.0041 (.80)	-.0031 (.60)
Other Manufacturing	.0088 (6.56)	.0119 (15.93)	.0024 (1.62)	-.0042 (2.53)	.0086 (5.19)

*t values in parenthesis.

TABLE 5
TOTAL MANUFACTURING NET INCOME AND OPERATING INCOME
IN RELATION TO SALES - 1987-1993*

	1987			1993		
	U.S. Controlled	Foreign Controlled	Difference	U.S. Controlled	Foreign Controlled	Difference
Taxable Income/Sales	5.20	2.30	2.81	5.31	1.70	3.61
Operating Income/Sales	8.97	7.66	1.31	7.99	6.50	1.49

TABLE 6
ADJUSTMENTS TO INCOME WHEN SCALED BY ASSETS*
(OBSERVATIONS WEIGHTED BY SALES)

	(1) Net Income Less Dividends	(2) Operating Income	(3) Net Income
Foreign	-.0243 (9.67)	-.0197 (6.35)	-.0139 (3.93)
Age 1: LE 5	-.0027 (.89)	.0036 (.95)	-.0020 (.64)
Age 2: GT 5 - LE 10	-.0059 (2.42)	.0072 (2.39)	-.0042 (1.70)
Age 3: GT 10 - LE 15	.0005 (.16)	.0042 (.98)	-.0006 (.19)
Age 4: GT 15 - LE 20	.0011 (.31)	.0021 (.46)	.0020 (.53)
Age 5: GT 20 - LE 30	.0113 (4.09)	.0197 (5.77)	.0119 (4.29)
Debt/Assets	-.1054 (31.89)	-.0464 (11.39)	-.1046 (23.41)
Intangible Plus Other Assets	-.0286 (4.12)	-.0518 (6.07)	-.0214 (2.99)
Interest Paid/Assets			.0168 (.33)
Depreciation/Assets			.1783 (5.02)
Depreciation/Assets * Foreign			-.2242 (3.52)
Dividends/Assets			1.2825 (25.24)
Royalties/Assets			-.0940 (2.85)
Interest Received/Assets			-.2216 (3.44)
R Squared Adjusted	.2010	.0762	.2964

*Industry dummies not displayed on table.
t values in parenthesis.

TABLE 7
SALES MARGINS - INCLUDES VARIABLE FOR 25-50 PERCENT
FOREIGN OWNERSHIP*
(OBSERVATIONS WEIGHTED BY SALES)

	Net Income/Sales		Adjusted Income/Sales		Operating Income/Sales	
Foreign Control	-.0354 (13.05)	-.0267 (10.10)	-.0253 (6.92)	-.0223 (6.16)	-.0103 (2.92)	-.0088 (2.48)
25-50 Percent Foreign Ownership	-.0384 (3.92)	-.0116 (1.25)	-.0529 (4.01)	-.0428 (3.38)	-.0279 (2.20)	-.0176 (1.42)
Age 1		-.0030 (.96)		.0023 (.54)		.0058 (1.37)
Age 2		-.0023 (.90)		.0107 (3.07)		.0155 (4.54)
Age 3		-.0113 (3.12)		-.0200 (4.04)		-.0900 (1.87)
Age 4		.0003 (.07)		-.0053 (1.00)		.0095 (1.83)
Age 5		-.0123 (4.26)		-.0166 (4.17)		-.0102 (.05)
Purchases		-.0165 (4.52)		-.0908 (18.30)		-.0773 (15.84)
Inverse of Total Assets		-1265 (4.65)		-4321 (11.60)		-1633 (4.48)
Debt/Assets		-.0957 (27.61)		-.0529 (11.16)		-.0597 (12.85)

*Industry dummies, included in each regression, are not displayed.

TABLE 8
DEBT, INTEREST COSTS. AND SHAREHOLDERS LOANS
(1993 CROSS-SECTION NON-FINANCIAL CORPORATIONS*

	Debt/Asset	Debt/Asset	Interest Expense/Asset
Intercept	.6553 (76.49)	.6529 (76.11)	-.0155 (15.61)
Foreign	.0675 (6.72)	.0621 (5.96)	.0001 (.12)
Wholesale	.0365 (2.86)	-.0385 (3.03)	-.0081 (7.76)
Chemical	-.0367 (2.01)	-.0396 (2.18)	-.0010 (.68)
Food	-.0010 (.06)	-.0020 (.13)	.0008 (.66)
Drugs	-.0845 (2.81)	-.0821 (2.73)	-.0045 (1.82)
Electronics	-.0409 (2.77)	-.0424 (2.71)	-.0025 (2.07)
Transportation and Utilities	.0121 (1.06)	-.0143 (1.25)	.0007 (.76)
Other Manufacturing	-.0372 (3.84)	-.0375 (3.88)	.0016 (9.32)
Age 1	.0933 (7.90)	.0900 (7.63)	.0090 (9.32)
Age 2	.0420 (4.33)	.0403 (4.16)	.0030 (3.79)
Age 3:	.0493 (3.59)	.0456 (3.32)	-.0007 (.65)
Age 4	.0094 (.63)	.0115 (.77)	-.0008 (.63)
Age 5	.0023 (.21)	.0012 (.11)	.0008 (.85)
Loans from Shareholders/Assets		.5123 (4.85)	-.0008 (.09)
Loans from Shareholders * Foreign		-.1648 (1.10)	-.0227 (1.87)
Debt/Asset Ratio			.0659 (61.15)

R Squared Adjusted	.0396	.0450	.4205
Mean of Dependent Variable Weighted	.6781	.6781	.0298

*Weighted by sales.
t values in parenthesis.

TABLE 9
COUNTRY EFFECTS FOR DEBT AND PROFITABILITY
(1993 CROSS-SECTION, SALES WEIGHTS)*

Country and Number of Companies	Debt/ Assets	Taxable Income/ Assets	Operating Income/ Assets
Canada (136)	.0026 (.08)	-.0351 (4.22)	-.0204 (1.83)
Japan (246)	.1190 (6.69)	-.0309 (6.59)	.0031 (.49)
United Kingdom (202)	.1038 (4.93)	.0034 (.62)	.0089 (1.19)
Netherlands (127)	-.0177 (.76)	-.0267 (4.35)	-.0139 (1.69)
Netherlands Antilles (11)	-.0693 (.69)	-.0111 (.42)	.0104 (.30)
Germany (101)	.0292 (1.09)	-.0667 (9.84)	-.0199 (2.18)
France (92)	.1182 (3.64)	-.0434 (5.10)	-.0354 (3.09)
Sweden (32)	-.0000 (.00)	-.0106 (.72)	.013 (.06)
Italy (11)	-.0087 (.06)	-.0605 (1.46)	-.0848 (1.53)
Bermuda and Panama (19)	.1620 (2.42)	-.1514 (2.92)	-.0518 (2.19)
Korea (12)	.4043 (4.22)	-.0170 (.67)	-.0252 (.75)
Switzerland (59)	.1236 (3.07)	-.0495 (4.67)	-.0212 (1.50)
Australia (21)	-.1172 (1.85)	-.0488 (2.94)	.0172 (.77)
Other Foreign (13)	.0678 (1.93)	-.0373 (4.04)	-.0118 (.95)
Debt/Assets		-.1083 (31.17)	-.0605 (13.02)
R Squared Adjusted	.0556	.2222	.2827

* t dvalues in parenthesis under coefficients. Age and industry coefficients not displayed on table.

TABLE 10
EXCHANGE RATE AND TREND EFFECTS IN 1987-1993 PANEL
(UNWEIGHTED)

Independent Variables	Net Income/Assets	Operating Income/Assets
Foreign * Manufacturing	.1447 (1.45)	.1506 (1.60)
Foreign * Wholesale	-.0213 (.19)	.0622 (.60)
Foreign * Manufacturing * Trend	.0085 (4.52)	.0053 (2.98)
Foreign Wholesale * Trend	.0058 (2.85)	.0038 (2.00)
Foreign Manufacturing * Exchange Rate	-.0024 (2.25)	-.0025 (2.48)
Foreign Wholesale * Exchange Rate	-.0004 (.34)	-.0015 (1.32)
Manufacturing * Trend	-.0020 (2.84)	-.0009 (1.37)
Foreign	.0042 (.73)	.0553 (9.61)
Debt/Asset Ratio	-.0659 (47.54)	-.0001 (2.05)
R Squared Adjusted	.0886	.0439

*Year and basic industry dummies not displayed.
t values in parenthesis.

TABLE 11
THE DISTRIBUTION OF TAXABLE INCOME

Taxable Income/Assets Category	All Firms		Manufacturing		Wholesale	
	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic
Less than -.150	.0282	.0247	.0279	.0252	.0274	.0180
-.15 to -.1	0.0336	0.0227	0.0418	0.0203	0.0219	0.0080
-.1 to -.075	0.0302	0.0207	0.0265	0.0211	0.0192	0.0180
-.075 to -.05	0.0625	0.0369	0.0516	0.0349	0.0604	0.0220
-.05 to -.025	0.0998	0.0538	0.0907	0.0544	0.0631	0.0261
-.025 to 0	0.1687	0.1059	0.1466	0.0878	0.1648	0.1024
0 to .025	0.2104	0.1541	0.2108	0.1224	.2500	0.2208
.025 to .05	0.1284	0.1514	0.1187	0.1272	0.1538	0.1706
.05 to .075	0.0880	0.1283	0.0977	0.1228	0.1126	0.1566
.075 to .1	0.0457	0.0857	0.0530	0.0947	0.0412	0.0722
.1 to .15	0.0544	0.1126	0.0642	0.1447	0.0521	0.1004
.15 to .2	0.0269	0.0547	0.0418	0.0736	0.0082	0.0401
.2 to .25	.0121	0.0231	0.0139	0.0321	0.0109	0.0281
Greater than .25	.0114	.0247	.0139	.0382	0.0137	.0160

TABLE 12
PROFITABILITY AND TRANSACTIONS WITH OFFSHORE AFFILITATES*
(270 COMPANIES)

	Taxable Income/Assets			Taxable Income/Assets		
Manufacturing	.012 (.85)	.014 (1.02)	.011 (.82)	.008 (.51)	.010 (.60)	.008 (.49)
Wholesaling	.015 (.89)	.019 (1.12)	.014 (.84)	.007 (.34)	.008 (.42)	.006 (.34)
Interests Expense/Assets	.009 (.05)	.014 (.08)	.004 (.02)	-.478 (2.45)	-.435 (2.24)	-.488 (2.49)
Transactions Thresholds						
(a) Tangible Purchases/Assets>.1	-.015 (1.23)			-.026 (1.84)		
Intangible Purchases/Assets>.01	-.003 (.20)			-.009 (.59)		
Tangible Sales/Assets>.1	-.002 (.14)			.009 (.56)		
Intangible Sales/Assets>.01	.003 (.23)			.004 (.23)		
(b) Tangible Purchases/Assets>.05		-.019 (1.51)		-.033 (2.25)		
Intangible Purchases/Assets>.005		.002 (.16)		-.009 (.60)		
Tangible Sales/Assets>.05		-.005 (.41)		.018 (1.21)		
Intangible Sales/Assets>.005		.002 (.12)		.004 (.26)		
(c) Tangible Purchases/Assets>.1			-.010 (.84)			-.021 (1.54)
Intangible Purchases/Assets>.01			-.006 (.41)			-.0003 (.02)
Tangible Sales/Sales>.1			-.015 (1.00)			-.003 (.16)
Intangible Sales/Sales>.01			-.002 (.16)			-.012 (.73)

*t values in parenthesis.

TABLE 13
TRANSACTIONS WITH HIGH-TAX AND LOW-TAX COUNTRIES*
(TRANSACTIONS SCALED BY ASSETS)

	Taxable Income/Assets	Taxable Income/Sales
Manufacturing	.013 (.93)	.009 (.57)
Wholesaling	.013 (.77)	.008 (.40)
Interest Expense	-.107 (.62)	-.580 (2.87)
Transactions Thresholds		
Low-Tax		
Tangible Purchases > .1	-.047 (1.80)	-.032 (1.05)
Intangible Purchases > .01	.013 (.27)	-.032 (.55)
Tangible Sales > .1	.042 (1.31)	.0000 (.00)
Intangible Sales > .01	.068 (1.83)	.088 (2.02)
High-Tax		
Tangible Purchases > .1	-.003 (.25)	-.018 (1.25)
Intangible Purchases > .01	-.001 (.09)	-.007 (.40)
Tangible Sales > .1	-.020 (1.22)	-.001 (.08)
Intangible Sales > .01	-.008 (.54)	-.008 (.49)

* t values in parenthesis.

TABLE 14
TRANSACTIONS WITH HIGH-TAX AND LOW-TAX COUNTRIES
(TRANSACTIONS SCALED BY SALES)

	Taxable Income/Assets	Taxable Income/Sales
Manufacturing	.012 (.87)	.009 (.58)
Wholesaling	.012 (.72)	.008 (.40)
Interest Expense	-.035 (.20)	-.530 (2.68)
Transactions Thresholds		
Low-Tax		
Tangible Purchases > .025	-.033 (1.61)	-.050 (2.08)
Intangible Purchases > .0025	.002 (.05)	-.014 (.29)
Tangible Sales > .025	.011 (.43)	.002 (.08)
Intangible Sales > .0025	.047 (1.59)	.062 (1.78)
High-Tax		
Tangible Purchases > .1	-.005 (.42)	-.016 (1.16)
Intangible Purchases > .01	-.007 (.53)	-.001 (.06)
Tangible Sales > .1	-.014 (.83)	-.001 (.04)
Intangible Sales > .01	-.007 (.50)	-.021 (1.23)

APPENDIX TABLE A1
THE RELATIONSHIP BETWEEN ASSETS AND SALES
(DEPENDENT VARIABLE IS LOG OF TOTAL ASSETS)

Foreign	.2316 (9.58)
Wholesale	-.1519 (4.21)
Chemical	.3147 (6.06)
Food	-.0586 (1.22)
Drugs	.1382 (1.38)
Electronics	.0245 (.65)
Transportation and Utilities	.4353 (13.35)
Other Manufacturing	.0616 (2.50)
Age 1	.0807 (2.90)
Age 2	-.0068 (.25)
Age 3	-.0265 (.79)
Age 4	-.0682 (1.72)
Age 5	-.0683 (2.13)
Log of Sales	.7919 (115.23)
Purchases/Total Expenses	-.9974 (26.28)
Royalties/Assets	.0018 (.01)
Dividends/Total Assets	2.436 (4.61)
Interest Received/Total Assets	3.365 (6.81)
R Squared Adjusted	.7225

APPENDIX TABLE A2
SALES MARGINS AND AN MNC INDICATOR

	Net Income/Sales	Operating Income/Sales
Foreign	-.0334 (12.33)	-.0101 (2.86)
Wholesale	-.0025 (.72)	.0325 (7.10)
Chemical	.0239 (4.68)	.0222 (3.33)
Food	.0134 (3.07)	.0045 (.79)
Drugs	.1034 (12.38)	.0361 (3.31)
Electronics	.0178 (4.31)	.0210 (3.89)
Transportation and Utilities	.0274 (8.63)	.1326 (31.98)
Other Manufacturing	.0106 (3.88)	.0055 (1.55)
Company is a Multinational *	.0180 (8.13)	-.0015 (.50)

*The MNC indicator is one if the company received a foreign tax credit or files a Form 5471 reporting on its controlled foreign corporations (CFCs) abroad.